

**REMARKS**

**Request for Reconsideration**

Applicants have carefully considered the matters raised by the Examiner in the outstanding Office Action but remain of the opinion that patentable subject matter is present. Applicants respectfully request reconsideration of the Examiner's position based on the above amendments to the claims and the following remarks.

**Claims Status**

Claims 1-5, 7-18 and 20-26 are pending in this Application.

Claims 1, 2, 3 and 17 have been amended herein to define the first discharge space as being formed between a first electrode and a second electrode, and to define that the first high frequency electric field is applied to the first electrode and the second high frequency electric field is applied to the second electrode. Since these limitations were contained in Claim 6 and also in Claim 19, Claims 6 and 19 have been canceled.

Furthermore, Claims 1, 2 and 3 have been amended to recite that the discharge gas contains nitrogen in an amount of 50% by volume or more based on the volume of the discharge gas. Such a limitation was contained in Claim 4 and Claim 4 has been amended herein to remove that limitation. Support can also be found in the Specification in the paragraph bridging pages 12-15 with respect to the discharge gas containing 50% or more by volume of nitrogen.

Also, because of the cancellation of Claim 6, Claim 7 has been amended.

Because of the cancellation of Claim 19, Claim 20 has been amended.

Respectfully, no new matter has been added by way of these amendments.

Additionally, it is respectfully requested that these amendments be entered because the amendments made to Claims 1-3 were contained in dependent Claims 4 and 6, while the amendments made to Claim 17 were contained in dependent Claim 19. Thus, it is respectfully submitted that no new matter has been added by

way of these amendments and, as such, the claims should be entered and considered by the Examiner.

**Prior Art Rejection**

Claims 1-5, 12, 14, 15 and 16 have been rejected as being unpatentable over a combination of Horiike, US '479, Hwang and Suemasa; and Claims 6-11, 13 and 17-26 have been rejected as being unpatentable over the combination of Horiike, US '479, Hwang, Suemasa and US '136.

In the previous Response, an English Translation of the Priority Document had been submitted to perfect the priority and make US '136 Prior Art under 102(e), only. Applicants then relied on 103(c) to remove US '136 completely as the reference under 103.

In response to those arguments, the Examiner had stated that the Priority Document failed to provide support for all the limitations presented in the claims.

In order to address the Examiner's position, Applicants have prepared a chart for Claims 1-3, 4, 5, 12, 13, 14, 15 and 16 to illustrate the limitations in those claims and where there is support in the Priority Document for the limitations therein.

Attached to the Remarks, are Tables 1-1 and 1-2 which outline the location in the Priority Document for each of the limitations can be found. Applicants again submit that the limitations in the claims are properly supported in the Priority Document and, as such, Applicants restate their position that they are entitled to rely on their priority claim and that US '136 is not a viable reference under 103. Specifically, Applicants state:

"the subject matter in US '136 and the claimed Invention were at the time the claimed Invention was made owned by the same person or subject to an obligation to assign to the same person."

Respectfully, US '136 is not a viable Prior Art reference for a rejection 103.

Turning back to Prior Art rejection (1) above, the Examiner had turned to Suemasa to teach superimposing frequencies to form an electric field. Applicants submit that the superimposing electric fields taught in Suemasa are very different than the superimposing electric fields in the present Invention.

Specifically, the Examiner should note that Claims 1-3 and 17 all recite that the superimposing electric fields are formed by having a first high frequency electric field in the first electrode and a second high frequency electric field in the second electrode and then allowing the two electric fields to superimpose, one on the other, in the discharge space between the two electrodes. This can be contrasted against Suemasa because Suemasa teaches that the two high frequency electric fields are superimposed by a modulator before they are ever applied to the electrode. Thus, the superimposed electric fields are applied as one to a single electrode. Suemasa does not teach that two separate electrodes are used nor does he teach that each of the two separate electrodes has a different high frequency field such that the two high frequency fields are independent of one another and are superimposed in the discharge space. Rather, Suemasa teaches superimposing the two electric fields by means of a modulator before ever arriving at the discharge space and then using only a single electrode for the superimposed electric fields. In order to illustrate the differences between the present Invention and Suemasa, a Comparative Chart has been prepared by the Applicant and the Comparative Chart is attached hereto.

As shown in Figure 1 of Suemasa, one of the electrodes in the discharge space is connected to the ground. Thus, the ground electrode does not carry a specific high frequency electric field. The power supply is a fairly complex mechanism in Suemasa because it must modulate the frequencies and superimpose one on the other before ever arriving at the electrode.

Thus, the method and apparatus by which Suemasa superimposes his two electric fields is different than the method and apparatus by which the present Invention superimposes two electric fields and that difference is particularly pointed out and distinctly set forth in each of the independent claims as presented herein.

Second, it should be noted that Suemasa teaches only C<sub>4</sub>F<sub>8</sub> as an example of a gas for use in the discharge space. This can be contrasted with the present Invention which specifically calls for nitrogen in an amount of 50% or more of the volume of discharge gas. Suemasa does not teach or suggest the use of nitrogen. Each of the independent claims herein recite that the discharge gas contains having 50% by volume of nitrogen and, thus, this is a second limitation which is recited in each of

the independent claims and specifically distinguishes over the teachings of Suemasa.

Third, each of the independent claims herein recites that the pressure in the discharge space is at or near atmospheric pressure. This can be contrasted against the teachings of Suemasa which teaches that the pressure in the discharge space is a reduced pressure, i.e. below atmospheric pressure. Each of the independent claims herein recites that the pressure and the discharge space is at or near atmosphere and, therefore, this is a third limitation which is specifically recited in the claims and which specifically defines over the teachings of Suemasa.

It is respectfully submitted that the teachings of Suemasa in combination with other references would not lead one of skill in the art to the present Invention.

Respectfully, the claims are patentable over the cited references taken alone or in combination.

**Conclusion**

In view of the foregoing, it is respectfully submitted that the Application is in condition for allowance and such action is respectfully requested.

Should any fees or extensions of time be necessary in order to maintain this Application in pending condition, appropriate requests are hereby made and authorization is given to debit account #02-2275.

Respectfully submitted,

LUCAS & MERCANTI, LLP

By: Donald C Lucas  
Donald C. Lucas, Reg. # 31,275  
(Attorney for Applicant)  
475 Park Avenue South  
New York, New York 10016  
Tel. # (212) 661-8000

DCL/mr

Attachment:      Table 1-1  
                  Table 1-2  
                  Chart